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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,659	08/16/2006	Horst Binder	294826US0PCT	9973
22850	7590	10/29/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LEONARD, MICHAEL L	
			ART UNIT 4131	PAPER NUMBER
			NOTIFICATION DATE 10/29/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/589,659	<b>Applicant(s)</b> BINDER ET AL.	
	<b>Examiner</b> MICHAEL LEONARD	<b>Art Unit</b> 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/16/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11 and 12 provide for the use of the ammonium salts substituted by four hydrocarbon radicals as a trimerization catalyst for isocyanate (Claim 11) and the use of the polyisocyanates for producing coatings, dispersions, adhesives, and as a polyisocyanate component in one-and two-component polyurethane systems for high-grade weather-resistant polyurethane coatings and high-solids coatings (Claim 12), but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 11 and 12 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App.

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1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

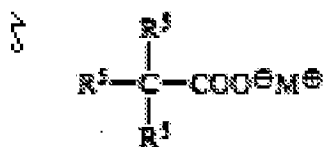
### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,540,781 to *Barsa* in view of U.S. Patent No. 4,040,992 to *Bechara et al.*

As to claims 1 and 2, Barsa discloses a method for the trimerization of an (cyclo) aliphatic or aromatic organic isocyanate (Column 7, lines 34-40) in the presence of a catalyst comprising  $\alpha$ -carboxylic acid salt of the formula:



Wherein  $\text{R}^5$  is independently selected from alkyl or aryl groups, and M is a quaternary ammonium cation having the formula  $+\text{N}(\text{R}^6)_4$  wherein each one of the four  $\text{R}^6$  radicals is independently selected from alkyl, aralkyl, and cycloalkyl groups (Column 2 lines 15-22) or from 2 to 18 carbon atoms (Column 2, lines 38-60).

As to claims 3-5, Barsa further discloses the term "alkyl" to mean methyl, ethyl, propyl, butyl, isopropyl, and isobutyl (Column 2, lines 38-40), and the term "aryl" to

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include phenyl and the like (Column 2, lines 57-59). Barsa further discloses wherein the ammonium ion includes trimethylbenzyl ammonium and tetramethylbenzyl ammonium (Column 4, lines 55-60).

As to claim 12, Barsa discloses a process of making the polyisocyanates that are useful for the preparation of molded solid cast elastomers, elastoplastics, and the like. Such products find utility as car bumpers, body elements, panels, doors, engine hoods, skirts, and air scoops. The good high resistance temperature makes them suitable where higher than normal temperature resistance is required (Column 8, lines 5-15).

Barsa does not disclose which acid the  $\alpha$ -hydroxycarboxylate ion is selected from.

Bechara et al. discloses any large variety of carboxylic acids that can be employed to furnish the anion of the desired quaternary ammonium salt. Among these compounds are short to long chain fatty acids, substituted aliphatic acids, and Aromatic acids with particular reference given to acetic acid, hexanoic acid, and neo acids such as 3,3-dimethyl butanoic acid (Column 4, lines 17-30).

Barsa and Bechara are analogous art because they are from the same field of endeavor with respect to using quaternary ammonium salts of carboxylic acids as catalysts for the production of isocyanurate-containing polyisocyanates.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the carboxylic acids mentioned by Bechara to make the quaternary ammonium salt ions disclosed in Barsa because both are using the salt ions as catalyst

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for the production of isocyanurate-containing polyisocyanates and both mention carboxylic acid ions in combination with ammonium salts.

7. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,540,781 to *Barsa* in view of U.S. Patent No. 4,040,992 to *Bechara et al.* as applied to claims 1-6, 11, and 12 above, and further in view of U.S. Patent No. 5,489,663 to *Brandt et al.*

Barsa and Bechara do not expressly disclose deactivating the catalyst with dibutyl-phosphate or di(2-ethylhexyl) phosphate or where the diisocyanate have a low chlorine content and is chosen from hexamethylene 1,6 diisocyanate or 1-isocyanato-3-isocyanato-3,5,5-trimethylcyclohexane.

Brandt discloses after reaching the desired degree of trimerization, the trimerization reaction is deactivated by di (2-ethylhexyl) phosphate or dibutyl phosphate (Column 5, lines 39-55). Brandt further discloses that isocyanates be from a group comprising 1,6-hexamethylenediisocyanate or 1-isocyanato-3-isocyanato-3,5,5-trimethylcyclohexane and the isocyanates used can be prepared by any processes including phosgenation and phosgene-free of the corresponding diamines (Column 6, lines 45-55). Cyclo-aliphatic diisocyanates prepared by phosgene-free processes do not contain chlorine compounds as byproducts (Column 6, lines 56-59).

Barsa and Brandt are analogous art because they are from the same field of endeavor with respect to using quaternary ammonium salts of carboxylic acids as catalysts for the production of isocyanurate-containing polyisocyanates.

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At the time of the invention it would have been obvious to a person of ordinary skill in the art to deactivate the catalyst system used by Barsa in order to create a polyisocyanate containing isocyanurate. It would have been obvious to use to phosgene-free process to prepare the diisocyanates used by Barsa because the trimerization catalysts would have had a significantly higher catalytic activity (Brandt, Column 6, lines 61-64).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Monday to Friday, 8:00am EST to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 5712721376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 4131

/MICHAEL LEONARD/  
Examiner, Art Unit 4131